

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A transmit-receive FM-CW radar apparatus which switches between transmission and reception by time division control, comprising: ~~a mixer for downconverting an IF signal; a switch provided on an input side of said mixer; and a switch controller for controlling said switch on and off in different modes and selecting said IF signal in said different modes for supply to said mixer.~~

a plurality of switches configured to turn on and off an IF signal;

a plurality of mixers, each of which is associated with a unique one of said switches, each mixer configured to downconvert said IF signal which is input to said mixer when an associated one of said switches is on;

a plurality of switch controllers, each of which is associated with a unique one of said switches, the switch controllers configured to control said switches on and off in a plurality of modes in which timings of said on and off of said switches are different depending on a distance from a target, and configured to select said IF signal in said plurality of modes for supply to said mixers.

2. - 5. (Canceled)

6. (Currently Amended) A transmit-receive FM-CW radar apparatus as claimed in ~~any one of claims 1 to 3~~ claim 1, wherein said ~~different~~ plurality of modes consist of a short-range mode for selecting an IF signal containing a signal from a short-range target, a mid-range mode for selecting an IF signal containing a signal from a mid-range target, and a long-range mode for selecting an IF signal containing a signal from a long-range target.

7. - 9. (Canceled)

10. (Currently Amended) A transmit-receive FM-CW radar apparatus as claimed in ~~any one of claims 1 to 3~~ claim 1, wherein said ~~different plurality of~~ modes consist of a mode for selecting an IF signal corresponding to a portion occupying up to ~~a point~~ about 1/3 from a leading edge of a ~~received-reflected-wave~~ receive timing interval, a mode for selecting an IF signal corresponding to a portion occupying up to ~~a point~~ about 2/3 from the leading edge of said ~~received-reflected-wave~~ receive timing interval, and a mode for selecting an IF signal corresponding to an entire portion of said ~~received-reflected-wave~~ receive timing interval.

11. (Currently Amended) A transmit-receive FM-CW radar apparatus as claimed in ~~any one of claims 1 to 3~~ claim 1, wherein said ~~different plurality of~~ modes consist of a mode for selecting an IF signal corresponding to a portion occupying up to ~~a point~~ about 1/3 from a leading edge of a ~~received-reflected-wave~~ receive timing interval, a mode for selecting an IF signal corresponding to a portion occupying from ~~the point~~ about 1/3 to ~~a point~~ about 2/3 from the leading edge of said ~~received-reflected-wave~~ receive timing interval, and a mode for selecting an IF signal corresponding to a portion occupying from ~~the point~~ about 2/3 to ~~a point~~ about 3/3 from the leading edge of said ~~received-reflected-wave~~ receive timing interval.

12. - 33. (Canceled)

34. (New) A transmit-receive FM-CW radar apparatus which switches between transmission and reception by time division control, comprising:

- a mixer for downconverting an IF signal;
- a switch provided on an input side of said mixer; and
- a switch controller for controlling said switch on and off in different modes and selecting said IF signal in said different modes for supply to said mixer;

wherein said plurality of modes comprise a mode for selecting an IF signal corresponding to a portion occupying up to about 1/3 from a leading edge of a receive timing interval, a mode for selecting an IF signal corresponding to a portion occupying up to about 2/3 from the leading

Appln No. 10/802,642
Amdt date May 25, 2006
Reply to Office action of January 25, 2006

edge of said receive timing interval, and a mode for selecting an IF signal corresponding to an entire portion of said receive timing interval.

35. (New) A transmit-receive FM-CW radar apparatus which switches between transmission and reception by time division control, comprising:

- a mixer for downconverting an IF signal;
- a switch provided on an input side of said mixer; and
- a switch controller for controlling said switch on and off in different modes and selecting said IF signal in said different modes for supply to said mixer;

wherein said plurality of modes comprise a mode for selecting an IF signal corresponding to a portion occupying up to about 1/3 from a leading edge of a receive timing interval, a mode for selecting an IF signal corresponding to a portion occupying from about 1/3-to about 2/3 from the leading edge of said receive timing interval, and a mode for selecting an IF signal corresponding to a portion occupying from about 2/3 to about 3/3 from the leading edge of said receive timing interval.